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10/656,375	09/08/2003	Hiroki Kishi	03500.017558.	8246

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EXAMINER	
SHAH, PARAS D	

ART UNIT	PAPER NUMBER
2626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/656,375	KISHI, HIROKI	
	Examiner	Art Unit	
	PARAS SHAH	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08/18/2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6-10 and 15-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-10 and 15-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the Amendments and Arguments filed on 01/29/2009. Claims 1, 6-10, and 15-22 remain pending and have been examined. The Applicants' amendment and remarks have been carefully considered, but they are moot in view of new grounds for rejection.

All previous objections and rejections directed to the Applicant's disclosure and claims not discussed in this Office Action have been withdrawn by the Examiner.

Response to Arguments

2. Applicant's arguments (pages 7-8) filed on 01/29/2009) with regard to claims 1, 6-10, and 15-22 have been considered but are moot in view of the new ground(s) of rejection.

Upon further consideration of the independent claims 1 and 10, a rejection under 35 USC 101, has been made and is outlined below.

In response to the Applicant's arguments that the newly amended claim limitations are not taught or suggested, the examiner respectfully disagrees. Maeda teaches an audio setting unit which is coupled with the ROI setting since in [0202], audio encoding is done for the ROI region by the use of the HVXC coder. Hence, a speech coder is being utilized in order to encode with high quality in the ROI region. The ROI region in Maeda is the area for which high quality encoding is to be performed. Further, Date in col. 6, lines 31-47, discloses the compression of a signal using two different compression schemes depending on signal type. In Date the first compression

that focuses on non-vocal components performs compression regardless of setting unit only upon detection and the second audio compression unit operates to encode the audio data correspondingly to a time period, with the high quality (see col. 6, lines 35-45, vocal components are encoded with higher quality). Further, in Date the two compression schemes are used for the time period of compression from compression data init 8 in Figure 3 so that each of said first audio encoding unit and said second audio encoding unit encodes the audio data during the time period.

Further, in response to the Applicant's arguments that there has been no showing of motivation the cited documents, the Examiner disagrees. The combination of Maeda, Date and Ichimura shown below have motivations for their combination. The utilization of the various compression schemes of Date allows the ability to produce high quality audio (see Date col. 1, lines 49-56) for important parts of a signal to be encoded which benefits the audio and image coding of Maeda. The tertiary combination of Ichimura provides the ability to produce accurate playback for important regions in a signal (i.e. ROI) (see Ichimura, col. 5, lines 5-8) by compressing or compressing at a lower rate important and unimportant regions which would benefit the combination of Maeda and Date for the integration of audio and image data when playback is necessary.

Response to Amendment

3. Applicants' amendments filed on 01/19/2009 have been fully considered. The newly amended limitations in claims 1 and 10 necessitate new grounds of rejection. The appropriate limitations have been mapped below.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 6-9, and 21 are rejected under 35 U.S.C. 101 because the claims appear to be directed to a software embodiment and not to hardware embodiment, where a machine claim is directed towards a system, apparatus, or arrangement. The claim appears to be directed towards a software embodiment. Paragraphs [0139] and [0140] describe the software program codes actualizing the embodiments of the invention. The claimed limitations are capable of being performed as software as described in the above paragraphs, alone since no hardware component is being claimed. Hence, the stated functions comprise software and is thus not directed to a hardware embodiment. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See e.g., Warmerdam, 33 F.3d at 1361, 31, USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between data and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships

between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 6-10, and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US PGPub 2001/0048770, 12/06/2001) in view of Date (US 6,605,768) in view of Ichimura (US 6,188, 831).

As to claim 1, Maeda teaches an image and audio processing apparatus comprising:

an input unit configured to input image data and audio data corresponding thereto (see Figure 24, MPEG-4 encoded data input unit 2401 and see [0202], where image and audio data is associated with the data);

image encoding unit configured to encode the image data (see page 4, [0080], line 19);

audio data unit configured to encode the audio data (see page 12, [0204], line 1-3) for encoding audio data inputted together with the image data (see page 12, [0204], line 2);

encoding of audio data during the period for which audio data (see Maeda, page 12, [0204], line 1-3) is processed with high acoustic quality (e.g. This is referring to the ROI set by the user) inputted together with the image data (see page 12, [0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Further, the applicant regards the audio setting means as the ROI setting done for the image and since the audio is appended it is inherent that the audio data will be affected for specific region. The audio data is encoded by a MPEG4 encoder)..

an image encoding setting unit configured to set (see page 2, [0026], lines 3-4) for setting the encoding said image encoding unit to encode the image data (e.g. Specifying an ROI of the moving image as being set by the reference and has been known to be of higher quality) so that a partial region in each frame images included in the image data is encoded with a high image quality (see page 1, [0007], lines 1-3 and [0249])); and

an audio encoding setting unit (see page 2, [0026], lines 3-4) configured to set said second audio encoding unit operates to encode the audio data correspondingly to a time period during which said image encoding unit encodes, with the high quality, the partial region in each of the frame images in accordance with the setting by said image encoding setting unit encoding (see page 12,

[0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Further, the applicant regards the audio setting means as the ROI setting done for the image and since the audio is appended it is inherent that the audio data will be affected for specific region. The audio data is encoded by a MPEG4 encoder),

data integration unit configured (see Figure 24, multiplexer 2414) image encoding setting means (see Figure 24, mask encoder 2412 and [0202], ROI shape and position information) and the encoded audio data by said audio encoding means (see Figure 24, output of entropy encoder 2413 and input into multiplexer.) corresponding to the period of the frame images encoded with high image quality, and outputting the integrated data (see Figure 24, output of multiplexer 2414 and input into code output unit 2415.)

However, Maeda does not specifically disclose the use of two separate encoding units for encoding audio data using two separate methods and selectively outputting the encoded data and setting unit setting the operating of first and audio encoding unit said second audio unit.

Date et al. does teach the first audio encoding unit configured to encode the by an audio encoding method for encoding general audio data (see col. 6, lines 39-42, different compression method such as MIDI, for musical component)

second audio encoding unit configured to encode the(see col. 6, lines 35-40, CELP) the audio data by another encoding method which is suitable for encoding speech data (see col. 6, lines 35-40, vocal components)

operation of said first audio encoding unit and said second audio encoding unit so that (a) said first audio encoding unit operates to encode the audio data irrespectively of whether said image encoding setting unit effects the setting of encoding (see col. 6, lines data compressing section 8, performs data compression of the audio section regardless of setting unit), and (b) said second audio encoding unit operates to encode the audio data correspondingly to a time period, with the high quality (see col. 6, lines 35-45, vocal components are encoded with higher quality), so that each of said first audio encoding unit and said second audio encoding unit encodes the audio data during the time period (see col. 6, lines 31-47, where the music and the vocal components are compressed using two different schemes for a time period of the signal);

It would have been obvious to one of ordinary skilled in at the time the invention was made to have modified the image processing taught by Maeda with the multiple coders as taught by Date. The motivation to have combined the two references involves the ability to produce high quality audio (see Date col. 1, lines 49-56)) as would benefit the image processing apparatus taught by Maeda, which discloses image and audio data corresponding to the ROI. Further, the combination would allow the system taught by Maeda to produce high quality audio for the ROI representing the audio and image.

However, Maeda in view of Date do not specifically teach the integration encoded audio data in a case image encoding setting unit does not effect the setting of the encoding, and to integrate with the encode image in a case where

image setting unit effects the setting of the encoding thereby outputting integrated encoded data .

Ichimura does teach

the integration encoded audio data in a case image encoding setting unit does not effect the setting of the encoding, and to integrate with the encode image in a case where image setting unit effects the setting of the encoding thereby outputting integrated encoded data (see col. 5, lines 32-45, image and audio data are stored with high quality for a given interval whereas the other intervals are processed as normal.). (e.g. Hence, it would have been obvious to one skilled in the art that the combination of Maeda in view of Date in view of Ichimura would be integrating audio data with respect to the first encoding unit with image when importance is not given consideration for maintaining high quality for important sections as opposed to unimportant sections (see Ichimura, col. 5, lines 40-46). Further, in regards to the latter limitation of the data integration unit, Date teaches the use of multiple encoders and for detecting and compressing based on type of signals (see Date, col. 6, lines 31-47), while Ichimura teaches the compression analysis based on important sections and if an important section is detected then performing compression to ensure high quality ((see col. 5, lines 40-46). The data integration occurs as the image has a corresponding audio content that when compression takes place, both the audio and image data are accounted for (see Ichimura col. 5, lines 40-46 and Maeda, Figure 24, and [0202]).

It would have been obvious to one of ordinary skilled in at the time the invention was made to have modified the image processing taught by Maeda in view of Date with the encoding of high quality audio in selected regions of an image as taught by Ichimura. The motivation to have combined the two references involves the ability to produce accurate playback for important regions in a signal (i.e. ROI) (see Ichimura, col. 5, lines 5-8).

As to claims 6, 7, 15, and 16 Maeda in view of Date in view of Ichimura teach all of the limitations as in claims 1 and 10, above.

Furthermore, Maeda teaches wherein said image encoding setting unit makes the setting so as to encode a region (see [0247], ROI is set by the region setting unit), with the high image quality (see [0007], ROI is determined for higher image quality), including an arbitrary object in the image data (see [0247], user can set a region of interest that includes objects. Further, the ROI is a region that is to be encoded (see [0247])).

As to claims 8 and 17, Maeda in view of Date in view of Ichimura teach all of the limitations as in claims 1 and 10, above.

Furthermore, Maeda teaches wherein said image encoding setting means makes the setting so as to encode a partial region of the image (see page 15, [0247], line 12-13) (e.g. ROI) data with the high image quality (see Maeda, page 1, [0007], lines 1-3) in accordance with a user's instruction for designating an

object displayed on a display screen (see page 15, [0247], line 14-15) (e.g. User can set ROI from the displayed data obtained from a camera.).

As to claims 9 and 18, Maeda in view of Date in view of Ichimura teach all of the limitations as in claims 1 and 10, above.

Furthermore, Maeda teaches wherein image encoding setting means makes the ROI setting image (see page 15, [0247], line 12-13) in accordance with the user's instruction (see page 15, [0247], line 14-15), and wherein said image encoding means executes the ROI encoding (see page 15, [0247], line 16-17).

As to claims 10 and 19, Maeda teaches an image processing method comprising:

an input unit step of inputting image data and audio data corresponding thereto (see Figure 24, MPEG-4 encoded data input unit 2401 and see [0202], where image and audio data is associated with the data);

image encoding step of encoding the image data (see page 4, [0080], line 19);

audio data unit step of encoding audio data (see page 12, [0204], line 1-3) for encoding audio data inputted together with the image data (see page 12, [0204], line 2);

encoding of audio data during the period for which audio data (see Maeda, page 12, [0204], line 1-3) is processed with high acoustic quality (e.g. This is referring to the ROI set by the user) inputted together with the image data (see page 12, [0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Further, the applicant regards the audio setting means as the ROI setting done for the image and since the audio is appended it is inherent that the audio data will be affected for specific region. The audio data is encoded by a MPEG4 encoder)..

an image encoding setting step of setting (see page 2, [0026], lines 3-4) for setting the encoding said image encoding step to control an image quality in accordance (e.g. Specifying an ROI of the moving image as being set by the reference and has been known to be of higher quality) with a partial region in each frame images included in the image data is encoded with a high image quality (see page 1, [0007], lines 1-3 and [0249])); and

an audio encoding setting step (see page 2, [0026], lines 3-4) setting an execution of the encoding in said second audio encoding unit in a case that said image encoding step effects the setting of the encoding (see page 12, [0204], line 1-3) (e.g. It should be note that in the reference the audio data is appended with the image data. Further, the applicant regards the audio setting means as the ROI setting done for the image and since the audio is appended it is inherent that the audio data will be affected for specific region. The audio data is encoded by a MPEG4 encoder).;

data integration unit step (see Figure 24, multiplexer 2414) image encoding setting step (see Figure 24, mask encoder 2412 and [0202], ROI shape and position information) and the encoded audio data by said audio encoding step(see Figure 24, output of entropy encoder 2413 and input into multiplexer.) corresponding to the period of the frame images encoded with high image quality, and outputting the integrated data (see Figure 24, output of multiplexer 2414 and input into code output unit 2415.)

However, Maeda does not specifically disclose the use of two separate encoding step for encoding audio data using two separate methods and selectively outputting the encoded data.

Date et al. does teach the first audio encoding step encoding audio encoding audio data by an audio encoding method for encoding general audio data (see col. 6, lines 39-42, different compression method such as MIDI, for musical component)

second audio encoding step encoding the (see col. 6, lines 35-40, CELP) the audio data by another encoding method which is suitable for encoding speech data (see col. 6, lines 35-40, vocal components)

It would have been obvious to one of ordinary skilled in at the time the invention was made to have modified the image processing taught by Maeda with the multiple coders as taught by Date. The motivation to have combined the two references involves the ability to produce high quality audio (see Date col. 1, lines 49-56)) as would benefit the image processing apparatus taught by Maeda,

which discloses image and audio data corresponding to the ROI. Further, the combination would allow the system taught by Maeda to produce high quality audio for the ROI representing the audio and image.

However, Maeda in view of Date do not specifically teach the integration encoded audio data in a case image encoding setting unit does not effect the setting of the encoding, and to integrate with the encode image in a case where image setting unit effects the setting of the encoding thereby outputting integrated encoded data .

Ichimura does teach

the integration step of encoded audio data in a case image encoding setting step does not effect the setting of the encoding, and to integrate with the encode image in a case where image setting unit effects the setting of the encoding thereby outputting integrated encoded data (see col. 5, lines 32-45, image and audio data are stored with high quality for a given interval whereas the other intervals are processed as normal.). (e.g. Hence, it would have been obvious to one skilled in the art that the combination of Maeda in view of Date in view of Ichimura would be integrating audio data with respect to the first encoding unit with image when importance is not given consideration for maintaining high quality for important sections as opposed to unimportant sections (See Ichimura, col. 5, lines 40-46). Further, in regards to the latter limitation of the data integration step, Date teaches the use of multiple encoders and for detecting and compressing based on type of signals (see Date, col. 6,

lines 31-47), while Ichimura teaches the compression analysis based on important sections and if an important section is detected then performing compression to ensure high quality ((see col. 5, lines 40-46). The data integration occurs as the image has a corresponding audio content that when compression takes place, both the audio and image data are accounted for (see col. 5, lines 40-46 and Maeda, Figure 24, and [0202]).

It would have been obvious to one of ordinary skilled in at the time the invention was made to have modified the image processing taught by Maeda in view of Date with the encoding of high quality audio in selected regions of an image as taught by Ichimura. The motivation to have combined the two references involves the ability to produce accurate playback for important regions in a signal (i.e. ROI) (see Ichimura, col. 5, lines 5-8).

As to claim 19, Maeda in view of Date in view of Ichimura teach all of the limitations as in claim 10 and further teaches the use of a storage medium (see [0302], storage medium).

7. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US PGPub 2001/0048770, 12/06/2001) in view of Date (US 6,605,768) in view of Ichimura (US 6,188, 831) as applied to claims 1 and 10 above, and further in view of Iseda (US 5,091,955).

Iseda does teach selection of encoded audio data having higher quality by comparing (a) audio quality of the encoded audio data encoded by said first

audio encoding unit and (b) audio quality of the encoded audio data encoded by said second audio encoding unit, and integrates the selected encoded audio data with the encoded image data (see col. 4, lines 56-65, selection done based on which coder set has optimum quality).

It would have been obvious to one of ordinary skilled in at the time the invention was made to have modified the image processing taught by Maeda in view of Date in view of Ichimura with the selection of an optimal coder as taught by Iseda. The motivation to have combined the two references involves the ability to produce high quality audio (see Iseda, col. 2, lines 40-15 and 50-55) as would benefit the image processing apparatus taught by Maeda, which discloses image and audio data corresponding to the ROI. Further, the combination would allow the system taught by Maeda to produce high quality audio for the ROI representing the audio and image.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARAS SHAH whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:00a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571)272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R Hudspeth/
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04/01/2009